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(71)Applicant : TOSHIBA CORP

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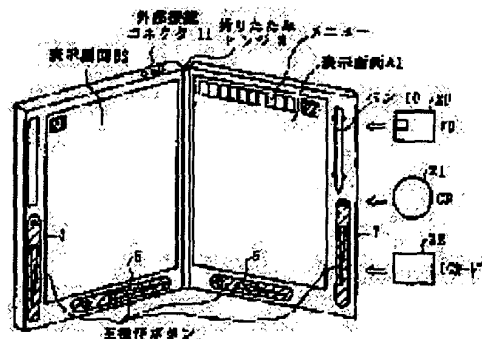
(72)Inventor : KUNO YOSHINORI
TANABE NOBORU
HASEBE KOICHI

(54) DISPLAY DEVICE

(57)Abstract:

PURPOSE: To make it possible to simultaneously display plural parts with sufficiently large sizes while securing the portability of a display device by providing the display device with plural plane display means to be folded and switching a mode between a continuous display mode and an independent display mode.

CONSTITUTION: Two display screens A1, B2 are optionally opened/closed or folded by a folding hinge 3 and main operation buttons 4 to 7 are arranged on the opened insides. Instructions from the buttons 4 to 7 and an input means such as a pressure sensing sensor provided on the display screens are converted into electric signals by an electric signal conversion circuit such as a switch and inputted to a control circuit and the contents of a document stored in a document memory are displayed on the screens A1, B2. In such a constitution, a mode for continuously displaying data on the two screens and a mode for independently displaying data on each screen can be optionally switched. Thereby relative pages out of the contents of the document stored in the document memory can easily be referred to and observed.



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CLAIMS

[Claim(s)]

[Claim 1] Display characterized by having two or more flat-surface display meanses, and having a switchable means for the mode which displays the content which was joined, became so that they could be folded up, and was stored in the document storage means as an independent medium as the mode which displays those flat-surface display meanses as a continuous display medium.

[Claim 2] Display according to claim 1 characterized by shifting and displaying it on the direction of one of screens if it has a means to judge whether a small character comes into a boundary line portion and a small character is in it when performing the display over two or more display screens.

[Claim 3] It is the display according to claim 2 characterized by carrying out a parallel displacement and an inner character displaying that only the character string does not come to a boundary line, as for the case of the character string which carried out the parallel displacement and was isolated so that a character string may not come one of the two's whole screen to a boundary line, when shifting a small character string and a character is one long train or one line.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention is used for the use of the display which mainly reads a portable document.

[0002]

[Description of the Prior Art] The display of the conventional portable computer consisted of one screen. When reading the long text which is not settled now in one screen, contents will be seen for every portion one by one. When reading explanation, it becomes impossible to see drawing simultaneously, when there is a certain drawing in this case and the explanation continues for a long time. Moreover, when explanation of a sign etc. is summarized ahead, and reading the back, the inside of the beginning which is seldom used to the sign wants to see the sign frequently, and has a bird clapper. In such a case, if it is a book, the page is pressed down with a finger, and although it can return easily if needed and that can be now seen from the place currently read, since changing the display page of a screen frequently does not see simultaneously complicated, it is hard to read in electronic display. The method which takes out two portions of a text to another window can be considered using a multi window as a method of solving this. There are a method which divides a screen, and a method using two or more windows which allow a lap in a multi window. Especially, although seeing the content of a display of all windows simultaneously cuts with the former, since the whole display screen is small, the amount of displays of each window decreases, the prospect of the whole text becomes bad, and reading also takes time by the portable computer. In the latter, if it is going to display a lot on one window and a large lap is taken, the content of other windows will be hidden and the problem that it does not look simultaneously will arise. By any method, operation of a window is needed and complicatedness is followed on use.

[0003]

[Problem(s) to be Solved by the Invention] As mentioned above, in the conventional display, seeing two or more portions simultaneously was not completed simple.

[0004] Having accomplished in view of such a conventional trouble, and maintaining small [convenient to carry], this invention is simple operation and aims at offering the equipment which makes it possible to secure the size of sufficient display for each portion simultaneously, and to display two or more portions.

[0005]

[Means for Solving the Problem] It is the display characterized by this invention having two display meanses joined by hinge mechanism which is foldable, and making it have the means changed when displaying presenting of the information on a document storage means on the two screens continuously, and when making it display on each screen independence in order to solve said technical problem.

[0006]

[Function] According to this invention, a portion to carry out cross-reference can both be seen easily.

[0007]

[Example] Hereafter, the example of this invention is explained in full detail based on drawing.

[0008] Drawing 1 shows one example of this invention. this equipment -- the two display screens A and B -- 1 and 2 fold up and it has come to be able to perform opening and closing and folding freely with a hinge 3 When it has a book depending on various ways of having, the main operation buttons 4-7 which advance a page or perform thing operation are formed in the position to which the thumb comes at the open inside. an example -- Chuo of the side on either side -- a little -- the corner of a lower twist to a page -- applying -- ** -- it is alike from the center of the lower side on either side, and a total of four places are attached You may adjust the number of these buttons if needed.

[0009] In addition, in this example, in order to choose a menu or to move the contents of a screen, the vertical move button 8 and the right-and-left move button 9 are attached. Moreover, the pen 10 for a handwriting input or menu selection is also attached. The external connection connector 11 for connection with other devices is formed in the

central lower part so that a connection code may not become obstructive [operation]. This equipment is foldable like drawing 2 (a), and it can be carried easily, protecting a display and a control unit.

[0010] Moreover, one side can be back folded like drawing 2 (b), and only one side can also be used now. If it does in this way, it can have equipment single hand and the content of a display can be read. The switch which detects what was turned up inside the fold-up section is turned on, and when turned up, you may make it erase the display of the field (a default is a left surface) which becomes a background, although not illustrated. If it carries out like this, what is read will become it not easily known by surrounding others, and it will also be saving electricity. [it] A time can be extended if only one side is used when there is little remainder of a cell.

[0011] Drawing 3 shows the internal configuration of this equipment. The switches for various kinds of operations accompany, and there are the two display screens (A, B), and also this is constituted like the usual microcomputer. The directions from the input means of pressure-sensitive sensor 15 grade established in the main operation buttons 4-7 and the display screen are changed into an electrical signal by the switch electrical signal conversion circuit 12, and are inputted into a control circuit 13. According to the directions, the contents of a document in the document memory 14 are displayed on the display screens A and B, and 1 and 2. A floppy disk 20, the optical disks 21, such as CD, IC card 22, etc. choose a suitable medium by the use other than the semiconductor memory inside equipment, and document memory can constitute them. Moreover, as for the display screens A and B, and 1 and 2, document data are displayed through display memory 14a.

[0012] On the other hand, as it consists of address controller 13a, memory controller 13b, etc. and is shown below, the request data in the document memory 14 are specified with the **-JI specification signal from the switch electrical signal conversion circuit 12, this data is read from the document memory 14 by the lead signal from a memory controller, and a control circuit 13 is sent to display memory 14a. Interpretation processing of the switches for operation is realized in the control circuit 13 interior.

[0013] For example, the most fundamental function pushes and chooses the icon of a basic function with a finger or a pen like drawing 4 . Selection of this displays a menu. With this menu, it chooses whether a new document is displayed only on right-and-left double-sided *****, the left, or the right, and a document is read. The item of "others" is an object for calling option. If a "reading"-related item is pushed and chosen with a pen or a finger, the menu for choosing the document to read will come out. For example, a display like [at the upper right of drawing 4] comes out. A picture of a portion with which the document and the book are usually stored is expressed as this menu. For example, I think that it has a technical book in a library and the often used book has its own collection of books in a bookshelf in the bookcase on a desk. In addition, from it, the low documents of operating frequency are contained in the latest documents and the external file cabinet at the cabinet under the document processed to the workstation recently, and a desk. If these portions are directed with a pen or a finger, the menu of the document stored there like [at the lower right of drawing 4] will come out. A document to read is pointed to it and chosen with a pen or a finger out of it.

[0014] If a document is chosen, when the content of the document had chosen "reading and information" and it chooses one of pages as a page on either side, it will be displayed on the one of the two's page. While reading the document before, the page displayed This to which a head page comes out of the page then read at the end, the document read for the first time, and the document which had read to the last by the default What is necessary is to read the information and just to have a page there, when write in the position (page) of a portion where it was displayed on each document filing when the display of the file was closed, making it place and reading a file. In addition, when the cover is being closed while having read a certain document before, it begins from the situation which was being read before (when the switch is being turned off).

[0015] If the menu of a page is chosen like drawing 5 to move a page greatly, the display of the scale of a page will come out, and if the portion of a general page is directed with a pen or a finger there, address controller 13a will be controlled so that a page flies. If a table of contents is in the document when the portion of a "table of contents" is chosen with this menu, the page will be displayed, and the portion will be displayed if the neighborhood of the header in a table of contents is pointed out with a finger or a pen.

[0016] In reading 1 page at a time or turning over Para Para and the page ordinarily, it uses the main operation buttons 4-7. A mechanical switch is sufficient as this and it may consist of pressure-sensitive sensors. A page progresses by pushing with fingers, such as the thumb and an index finger. Although mainly used for the directions to the direction which advances a page, it can also return to an opposite direction. In this case, the edge of one of the two of a button is pushed. At drawing 1 , the small triangle shows this and the long triangle shows the forward direction. If the main operation button is pushed one lightly and carried out, and 1 page will progress and it will continue pushing it, it will change a page continuously. When using a pressure sensor, if it pushes strongly, operation can also be constituted so that a page may progress early according to it.

[0017] It roughly divides into page operation and there are right-and-left linkage and the two independent modes. Since this is an important function, it can be chosen not on a sub menu but on the top level like drawing 6 . A color reaches, or the direction chosen carries out positive negative reversal, and understands immediately which mode it is.

[0018] Interlocking mode is the mode in which interlock considering a right-and-left page as one, and the page is moved. It uses, when reading the document ordinarily. There are two methods, a double-sided change and an one side change, in this, and a user can use the liking. Out of others of the menu of a basic function, a sub menu is chosen and this setup is changed, as shown in drawing 6 . Those explanation is shown in drawing 7 . Both pages will be rewritten by the following page, if a double-sided change finishes reading both sides and one of the main operation buttons 4-7 will be pushed. This is suitable to put in and read whole both sides within a visual field.

[0019] An one side change is a method rewritten by the new page from the direction of a front page like <A HREF="/Tokujitu/tjitemdrw.ipdl?N0000=237&N0500=1 E_N/;?9? 7<886///&N0001=739&N0552=9&N0553=000009" TARGET="tjitemdrw">

operation buttons 4-7 is pushed. Since the content of a front field is rewritten by the following page while reading other fields if it finishes reading one side and a button will be pushed, there is no dead time which waits for a display change, and it ends.

[0020] In addition, when it is in the below-mentioned independent mode, you may make it both screens change [include] by the method of a double-sided change, whenever it pushes simultaneous [of 1 of the left buttons 4 and 5, and the right buttons 6 and 7 / one].

[0021] The independent mode is the mode in which a right-and-left page can be moved independently. Although it is naturally this mode automatically when reading and reading another document right and left with a basic function menu, when right-and-left both sides are being used to read the same document, convenient usage can be done by [this] carrying out mode specification.

[0022] For example, while reading the document in interlocking mode, a certain page has explanation of drawing or a sign, and the independent mode is chosen when the talk relevant to it is likely to continue behind. And a page is advanced and only the page of how to twist drawing and a sign is read. This should just push the main operation button of the page of the direction to advance. the talk about the drawing and sign finished -- **** -- if it returns to interlocking mode, the page (or the following page) of the advanced one will be made into one side (if it is the usual lateral writing left surface), and it will return to the interlocking mode which indicated by double-sided Explanation can be read by this, continuing looking at drawing etc., and it becomes easy to read a document.

[0023] Or if you want to come to refer to the portion which is reading the document in interlocking mode and was read before, the usage which changes to the independent mode and is referred to as seeing the front on one of the two's page is also convenient. If it changes to interlocking mode also in this case, it will return to the interlocking mode which displayed the page of the advanced one.

[0024] Only a header and a chart are displayed, when continuing pushing the main operation button strongly and advancing a page at high speed. In making it high speed furthermore, a chart is thinned out and displays only an outline. Or as only a part is displayed, improvement in the speed can also be attained so that only a few may be opened and seen without all opening a book ordinarily at the time of the Para Para ****.

[0025] Moreover, the switch electrical signal conversion circuit 12 and the control circuit 13 controlled by the signal can also be set up as it is every 5 pages page [suitable / every], for example, when it pushes most strongly, when the main operation button is pushed strongly, and it is indicated by the ** page, when it pushes lightly.

[0026] The screen on either side other than the above fundamental displays can also be used as a screen of one sheet in all. When document data from the first are not one side but an object for both sides (for example, a spreadful of drawing), and when saying that he wants to read to an eye gently with a big character, a part for the page 1 of one side may be displayed on this at both sides. What is necessary is in the case of the former, just to make it a double-sided display automatically, if it meets with it, since a sign to that effect can be put in and set to document data (however, if a function is not changed so that both sides may be used while reading the document only using one side, on one side, it will divide into 2 pages and will read). Unlike the book of the usual paper, a right-and-left page may not be fixed by operation of how to advance in the middle of reading with this equipment. It follows, for example, if it is original like drawing 7 (c), reads one side every till then, and even when saying that there is facing drawing in a certain place, there is a case where a page stops suiting as shown in drawing shown in the center in drawing. In this case, if it is the usual right-and-left linkage mode and the main operation button will be pushed in this state, it will become as it is shown in drawing shown in the right end in drawing. However, in such a case, since it is specified to be a document that it is facing drawing, the main operation button is pushed in fine-tuning mode, address controller 13a judges and it displays that a facing display is corrected as shown in the left end in drawing.

[0027] You have to issue the directions, when the 1-page content is called double-sided *****. This chooses

others from the menu of a basic function, chooses them from the sub menu in it, and can be specified now. When such a display is performed, it will use 90 degrees, turning equipment to the right or the left. It has the main operation button in the surface of equipment -- if it kicks -- right and left -- operation is possible by both of the hands. Although you may make it such, when the button sticks like an example, either a RRC or a RLC can be chosen according to whether a user wants to operate it by one of hands.

[0028] In displaying using both sides as mentioned above, the display near the boundary line of both screens will be a problem. A small character etc. is the problem of being hard coming to read if divided by both sides near a boundary line. In the example, this is solved as follows.

[0029] The flowchart of processing of the control circuit 13 which copes with drawing 8 at this problem is shown. Since it is so much satisfactory for reading them even if drawing and a large character are divided on the way, when the small character below a fixed size is divided, the parallel displacement of the content of a display is carried out so that it may be displayed without dividing it. The small character has pointed out the character which is not an expanded historiated initial and which is displayed in an ordinary size here. There is a case of drawing 9 (a), (b), and (c) in a small character coming to a boundary line. (c) is others and the isolated character string and (a) and (b) are the cases where the character in it comes to a boundary line, when one line or the whole train comes to a boundary line.

Processing investigates the position of the character string (line) of the small character at the time of displaying as it is first, and confirms whether it comes to a boundary line (Step 1001). The whole field (if it is the upper example in drawing 9 (a) and (b) a left surface, the upper surface [A lower example]) of the way where it is greatly contained if there are such a train and line is shifted a little, and it is made for a character not to start a boundary line (Step 1002).

Since there is generally some margin in the circumference in written form, it is satisfactory at this simple processing.

[0030] Next, it investigates whether there is any portion like drawing 9 (c) (Step 1003). If it is, the character string (the example of drawing CD) of the direction where the character (the example of drawing 9 (d) C) divided is contained greatly will be shifted so that a character may not be divided (Step 1004). Drawing 9 (d) is the result of shifting. Thus, since it takes a margin and is written to other portions, even if the isolated character string shifts only the character string a little, it is satisfactory.

[0031] If a display position is corrected as mentioned above, it will actually display (Step 1005). If the corrected result is returned to the document memory 14 through memory controller 13b, correction processing will become unnecessary henceforth. Or if this equipment or another computer performs such correction processing beforehand (for example, while not using this equipment etc.) and the result is put into the document memory 14, it will become unnecessary to process in the case of a display, and a display will become quick.

[0032] An example can be used even if it connects with various kinds of external instruments like drawing 10. Although connection is using the cable and the code in the example, the radio system by light and electromagnetic waves, such as infrared radiation, can also carry it out. For example, in order to use it outdoors for a long time, there is an external dc-battery 30. The external storage 31, such as an optical disk which recorded many documents, animations, etc., can be connected, and the content can also be seen. Moreover, a video tape recorder 32 is connected, and it can constitute so that it may be seen by the display screen. Moreover, in order to make a display portion as lightweight as possible, the carrying-out method for separating into the external processor 33 except a display and the light source required for a display, and a minimum electrical circuit can also be taken. This is put into a bag or the waist back, or is used, attaching to a belt.

[0033] A keyboard 34 can also be attached as an input means. If the bookrest 35 with a keyboard which the bookrest attached to the keyboard is prepared and it connects with this, it can be used also as a usual computer.

[0034] Moreover, connection is also possible with an alien machine (for example, the personal computer and workstation 36 of a desktop). In this case, the content of a document will be received and displayed from the computer. For example, when working in office and you want to lean on a chair deeply, to relax a few, and to read a document, it is good to connect [rather than] this equipment, to have in a hand using the display of a desktop computer, and to see. In this case, the content of not the document memory 14 of the content but the memory by the side of a desktop computer is read and displayed.

[0035] Another purpose linked to an alien machine is usage which transmits a document to the document memory 14 of example equipment from the computer, and separates example equipment after that, for example, carries out outside, and reads a document there. In this case, since it carries out outside, it needs to be cautious of the treatment of secret papers. In the example, it is coped with and security in the case of a cellular phone is planned so that it may state below.

[0036] Drawing 11 is the flowchart of the processing which transmits a document to example equipment from an external computer. The header of the document of an external computer is seen first and it checks in secret papers (Step 1301). What is necessary is just to transmit as it is, if it is not secret papers (Step 1301 NO). He wants to surely carry

out at the time of secret papers, or it is asked to a user (Step 1302). When it answers that a user does not need to carry out (Step 1302 NO). It ends without carrying out anything. When you wanted to carry out and an answer comes, a password is added to a document (Step 1303). This may require a setup of a user and may use the password peculiar to a user registered beforehand by the default. And a document is transmitted (Step 1304).

[0037] The flowchart of the processing when reading the transmitted document is shown in drawing 12. If it is going to read a certain document first, it will be confirmed whether the demand of a password is attached to the document (Step 1401). If there is nothing (Step 1401 NO), it will display as it is. When the password demand sticks, it displays on a user whether you may read (Step 1401 YES) and here, and asks for recognition (Step 1402). For example, it uses in the train etc., and if (Step 1402 NO) and a user direct that when a user thinks that he is unsavory, if it reads here, it will end, without displaying anything. When a user also directs that you may read, the input of (Step 1401 YES) and a password is required (Step 1403). A password pushes and inputs what the character and the number were displayed as with a pen or a finger. Or a sign is put in with a pen or a finger, or a sign is inputted, and you may make it collate the hand. If a password is inputted, it is checked (Step 1404), and if right, (Step 1404 O.K.) and a display will be started.

[0038] To the above example, even if it changes various composition of a control unit etc., it can carry out. Although the input in the main operation button, pen, or finger formed in exclusive use is used in the example, this can realize at least the latter only for the former. how to push in order to distinguish [only in the case of the former] page order in the case of menu selection etc. -- changing (for example, it pushing twice) -- when there are two or more main operation buttons, it carries out pushing simultaneously two or more buttons (two [for example,]) etc. In the case of the latter, the selection branch which gets a page mixed up should just be added to a menu.

[0039] The form of a ten key or a keyboard may be displayed on a pressure-sensitive sensor side like drawing 13, and you may input by pushing it with a finger or a pen. It is suitable for the little input when being hard to use an external keyboard.

[0040] Moreover, you may fluctuate the number of the main operation buttons. however, the case where the number of the main operation buttons is one -- the time of the right-and-left independent mode -- right and left -- it is necessary to add the operation which chooses [menu] beforehand whether one of pages are operated

[0041] Furthermore, the following option can be incorporated or it can also carry out. For example, in the right-and-left independent mode, the display which other fields expanded to one side can be issued. A part of charts, such as a fine map displayed on one side like drawing 14 (a), can be expanded in respect of others, it can be seen, and it is convenient. or the page of the document of a large number reduced to one side like drawing 14 (b) is displayed, what to check out of it is chosen, on the other hand, it may be alike, and an enlarged display may be carried out

[0042] A screen is further divided into plurality, two or more documents are read (for example, the bibliography and the dictionary of a document which are read are taken out and read), or displaying two or more chart pages etc. in the right-and-left independent mode, can be continued. You may take in the multi-window display which allows a lap. In the example, although the pen is used only for selection of a menu, it may add the function to utilize this. It is a character recognition circuit like drawing 15. By adding 100, the input of the command input to equipment, a memorandum, etc. can be performed in a pen input.

[0043] In order to draw an underline in a memorandum or a document like drawing 16, character (sign is included) recognition may be carried out, the result may be used, and the stroke of a pen may be stored in a file as it is. Whichever it makes it the method, although what is necessary is just to write in the suitable file (memory) which added the page and the position in the inside of it to a recognition result or stroke information, and was linked to the document, in the case of the document only for readings, it writes in, and the following processings are carried out to it to what may change the position of each part of a document. Drawing 17 is the flowchart of the processing. The positional information on the screen first inputted from a pen is read (Step 1901). And the content of a document currently displayed on the position is searched for (Step 1902). Into the document memory 14 connected with the content of a document and pointer, the content of the whole position to the content of a document of a memorandum and a memorandum is written in. A relative position is made as a default to use the bottom of the character, and the thing decided suitably, and is good as for a method of ellipsis ****. Drawing 18 explains the above processing in an example. In (a), a memorandum called XYZ is written in after A of the graphic-character train of ABC. As shown in (b), although whichever is sufficient even if it may recognize this and thinks as a line drawing image input as it is including a sign, the content is connected and recorded with a pointer to the portion of the document A. In drawing, the relative position (the round mark has shown) and the content over a character A are recorded. Moreover, in drawing, the link is stretched to the character B. Although there may be this [no], it can be coped with, when it was and the character A is erased. However, when A and B are erased, it cannot be coped with with this. Since such a memorandum and a comment are usually attached in many cases for document change, such a thing may happen frequently. In this case, if an elimination change of the document is made except when the memorandum to which the

user was given is specified are unnecessary in order to cope with it, it is made for the correspondence position of a memorandum to move behind (or for you to be a front). When AB is erased in an example, it is made to move to C. [0044] Although the character string of XYZ was collectively treated in the above explanation, when such a character string and an underline are drawn, you may divide and record them in the graphic-size unit which approaches most. For example, when an underline is drawn to whole ABC, an underline may be divided into three and you may record as the underline of A, the underline of B, and an underline of C. Although there is a possibility that a document may be divided and it may not understand anymore when a document is changed on the way and it is a comment, in the case of an underline, the direction set in this way is considered that the meaning of an underline is easy to be saved when writing is added for a long time on the way.

[0045] When reading the document which drew the writing and underline of a memorandum, if there is writing, the content will be read and displayed by the default. Then, since a display may be sensed complicated, it enables it to also choose the notation which is made not to give the indication. Or you may make it display the sign which shows that there are some comments like the asterisk of drawing 19 on the interior of a margin (surrounding margin) or a document.

[0046] In the example, the liquid crystal display with a back light is used for the display. Other flat-surface displays, such as a plasma display, are sufficient as this. Moreover, a display which is different to right-and-left both sides can also be used. For example, one side may make other sides composition called monochrome display liquid crystal by color display liquid crystal. The thing of a cheap almost equivalent function can be constituted [rather than] using a double-sided electrochromatic display. In this case, if it carries out whether the sign of being a color page is attached to the document at the time of right-and-left linkage mode, and it is detected, or it knows that the page is a color from the record format of a document, you may add the mechanism which assigns the page to the direction of color display. Or it can judge whether the portion of a character will be assigned to a color display side by investigating it, if the document is made from the page which is black and white and has a color in drawing so that it may indicate that a color is in the header of the head of a page. To the document with which such preparations are not made, the whole page is investigated beforehand and the processing which investigates whether there is any color picture is started for every page. Judgment processing becomes unnecessary, when reading again, if the information on the existence of a color is written in the document read through such processing at once for every page and it is made to record on the document memory 14. When coming to the boundary line of both screens by the display using both the whole screen described above, it becomes easy to use the direction which processes a document by the external computer (desktop computer 36) beforehand, adds the information on the existence of a display position or a color, and is transmitted to the document memory 14 in respect of a display speed rather than carrying out [include] judgment processing with this display.

[0047] The composition of restricting the field in which the pressure-sensitive sensor for a pen input etc. is formed as another example which changes the property of a field on either side to one side is also possible. This also becomes a decrease of cost. However, when the place into which a comment is put when putting in a comment with a pen is also required, after bringing) and a document to a field with a sensor including [drawing (underline)], it is necessary to carry out.

[0048] What is necessary is just to change mainly, for the lateral-writing document of left binding, in the above explanation, in the case of other methods, so that treatment according to it may be carried out although. For example, by the columnar-writing document of right binding, the direction of a right page becomes ahead of a left page.

[0049]

[Effect of the Invention] As mentioned above, since there are right-and-left linkage mode and the independent mode according to this invention as concretely explained based on the example, and it is changed freely, when reading the usual book, easily with reference to a related page, it can see so that the finger may be pinched and a page to refer to repeatedly may be looked again. And if it is small by the fold-up formula, and a display is large and folds up, a display will be protected, intensity is also strong and the equipment excellent in portability which can write in a memorandum etc. easily can be realized.

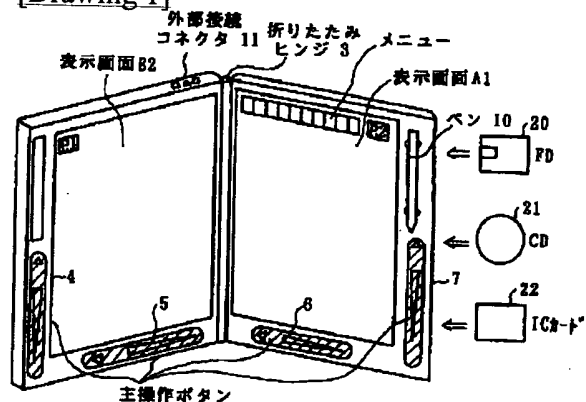
* NOTICES *

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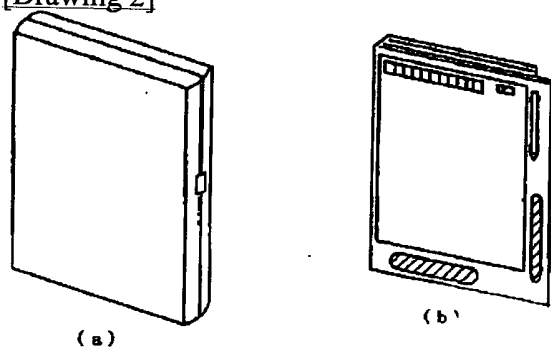
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2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

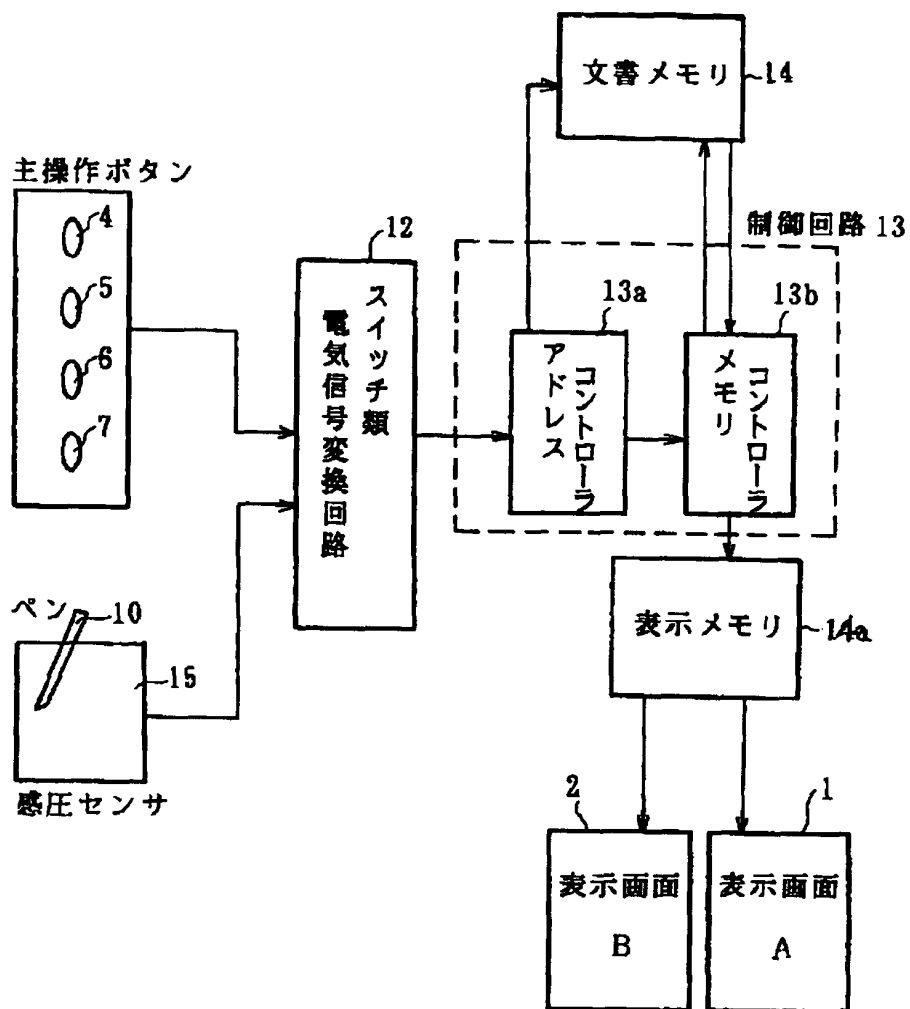
[Drawing 1]



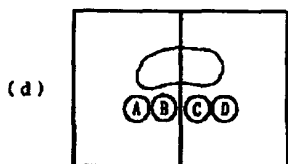
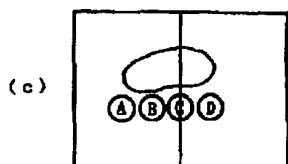
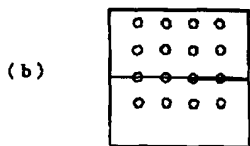
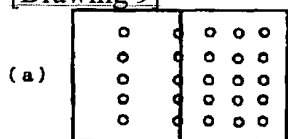
[Drawing 2]



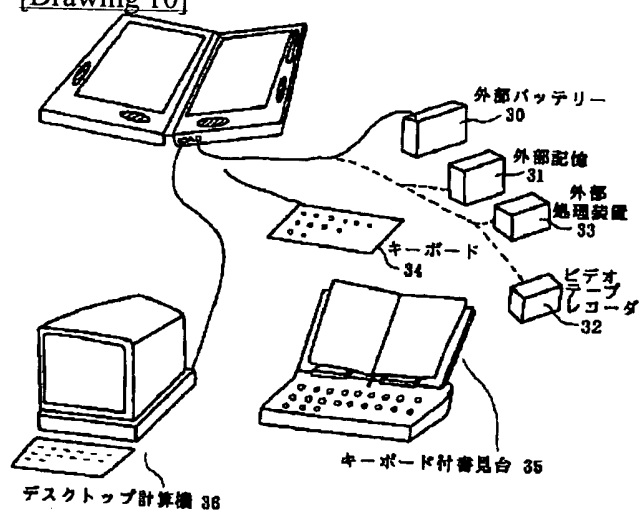
[Drawing 3]



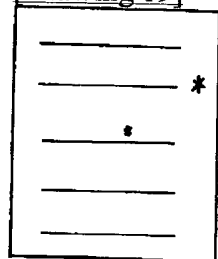
[Drawing 9]



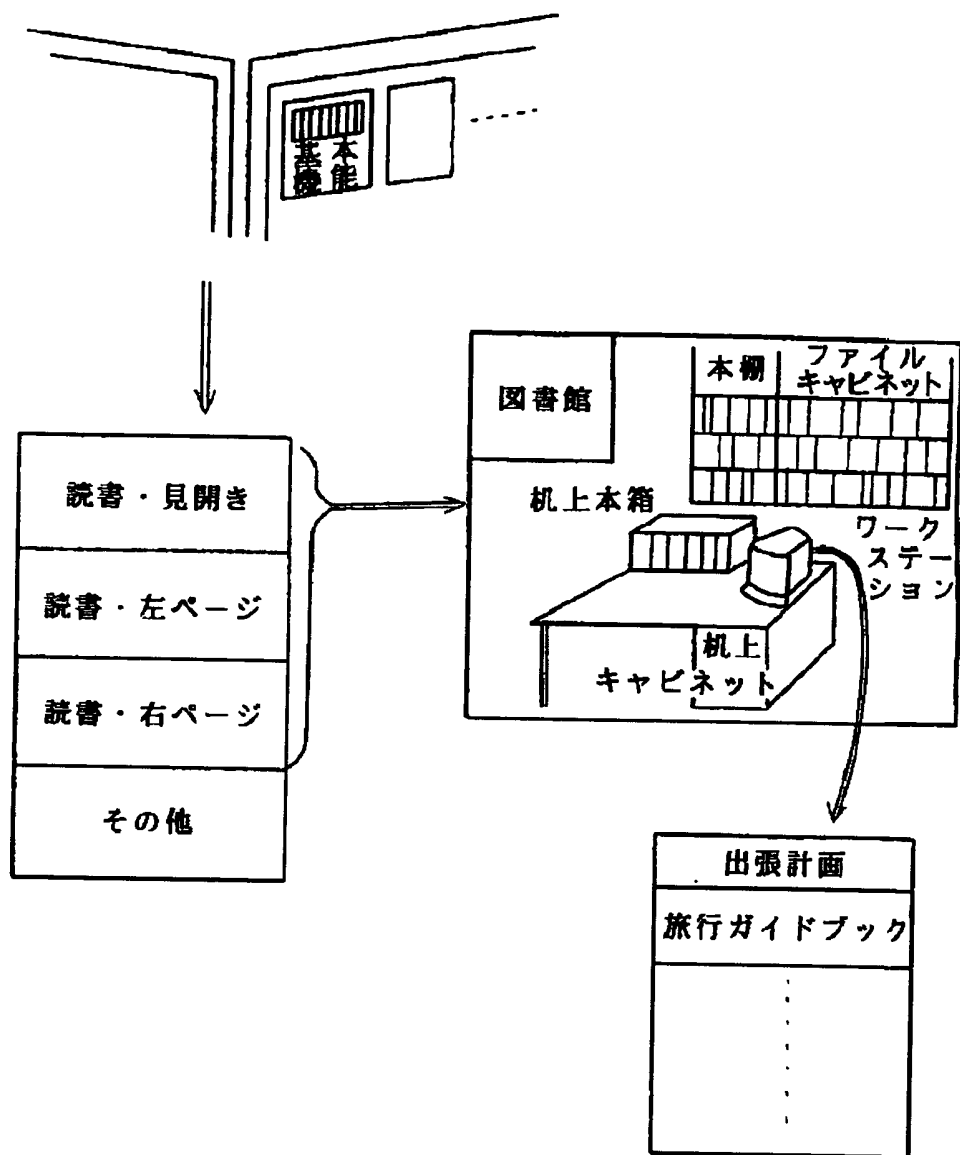
[Drawing 10]



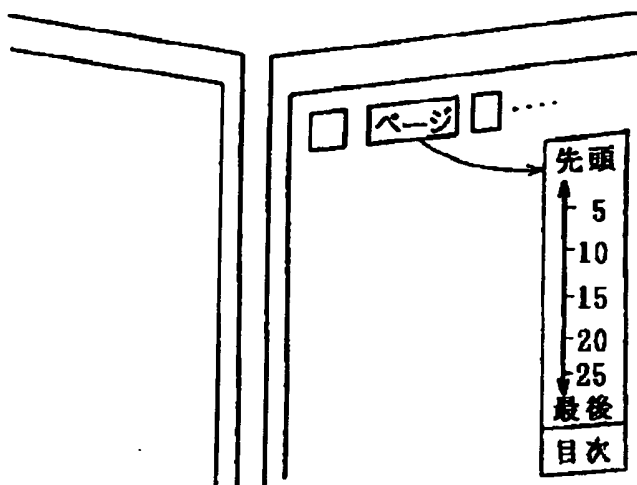
[Drawing 19]



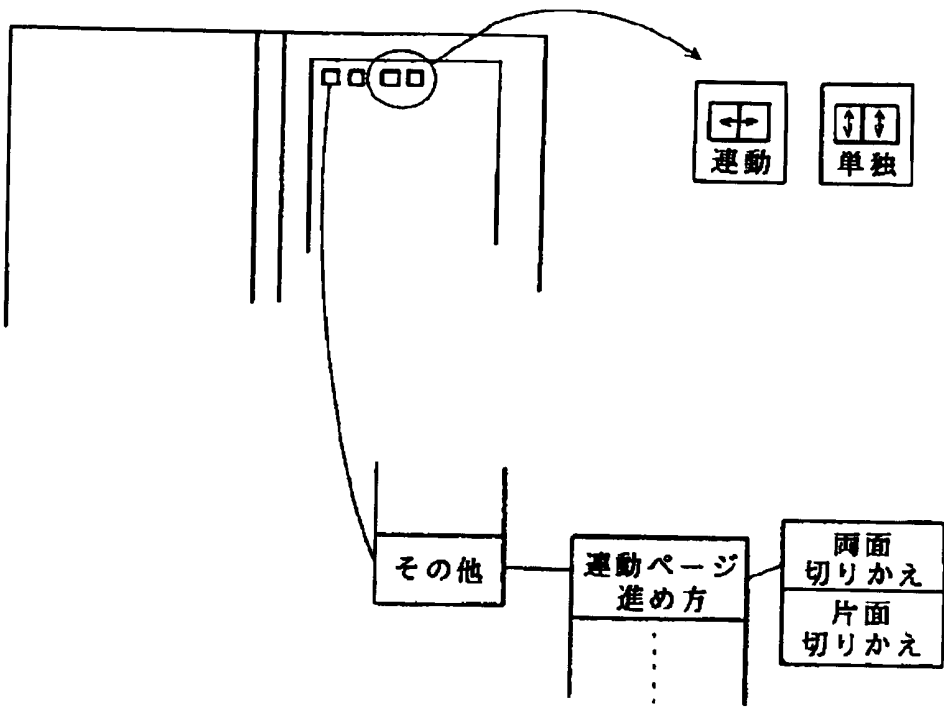
[Drawing 4]



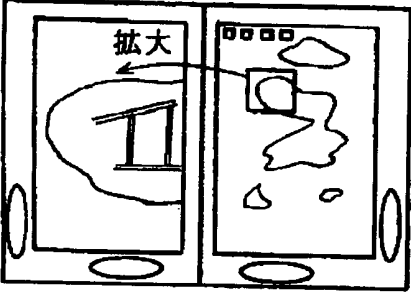
[Drawing 5]



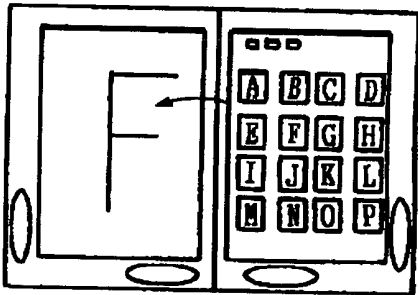
[Drawing 6]



[Drawing 14]

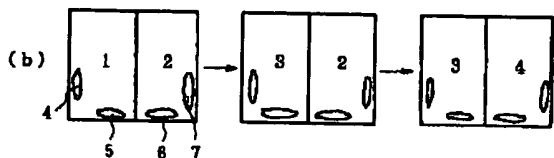
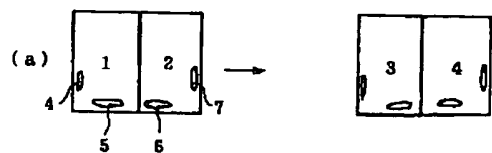


(a)

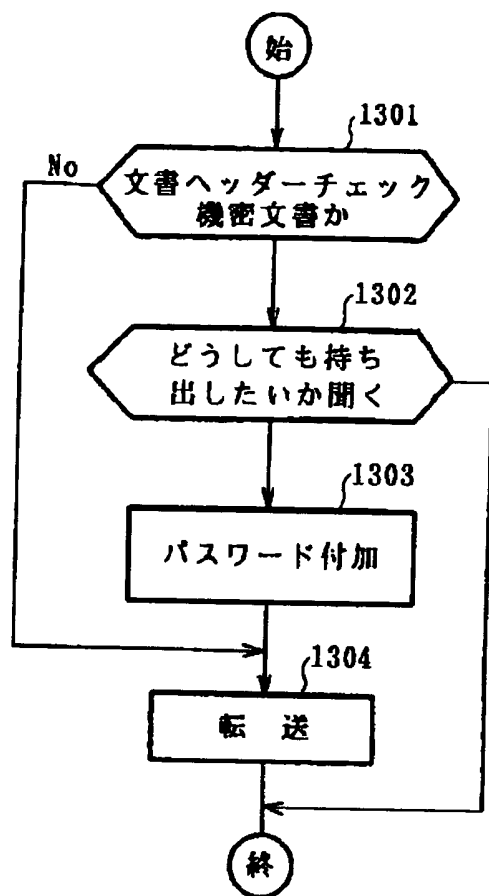


(b)

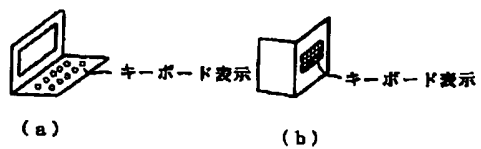
[Drawing 7]



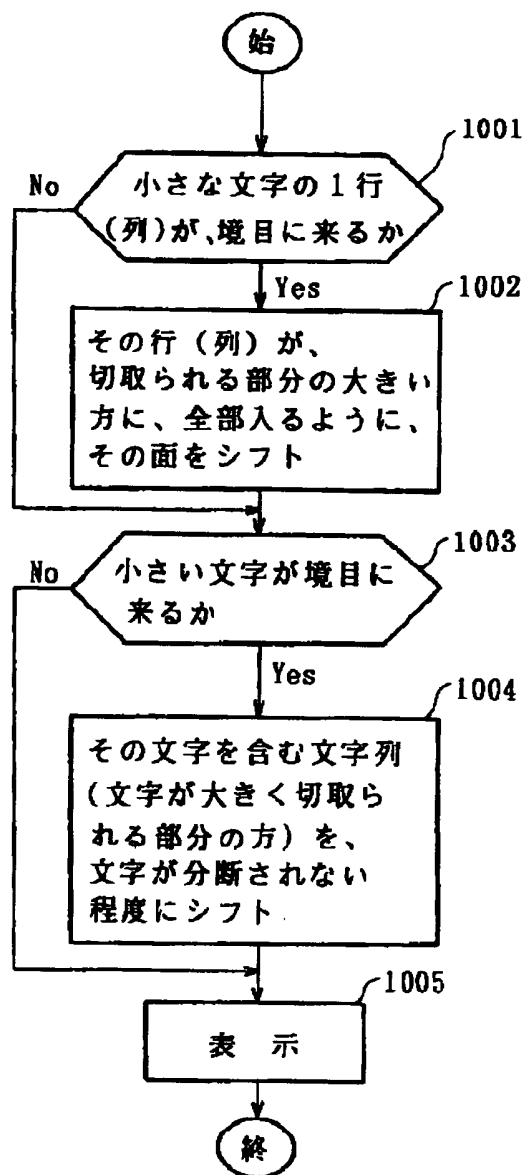
[Drawing 11]



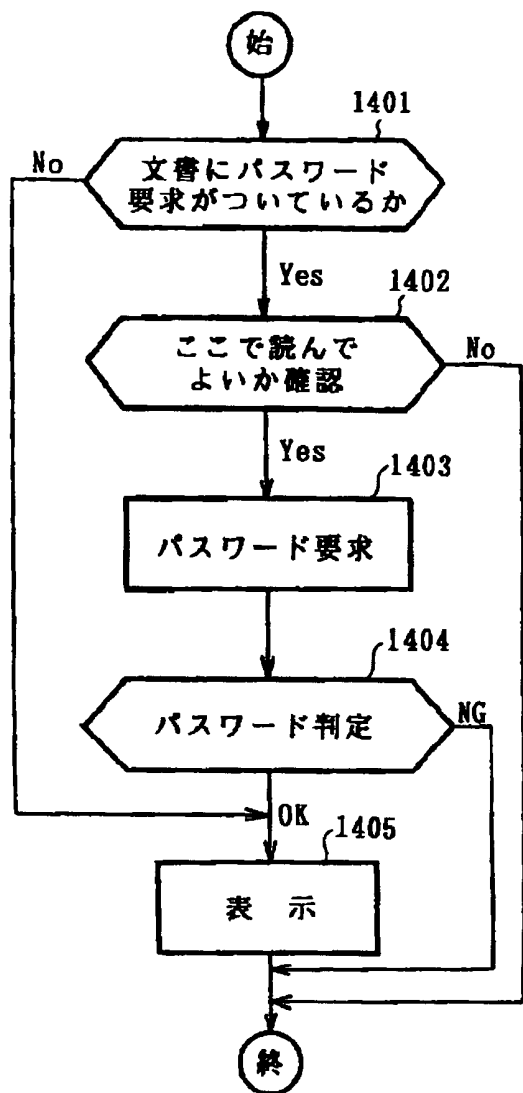
[Drawing 13]



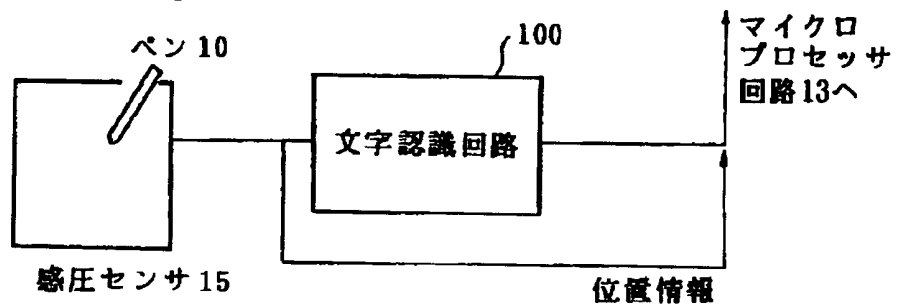
[Drawing 8]



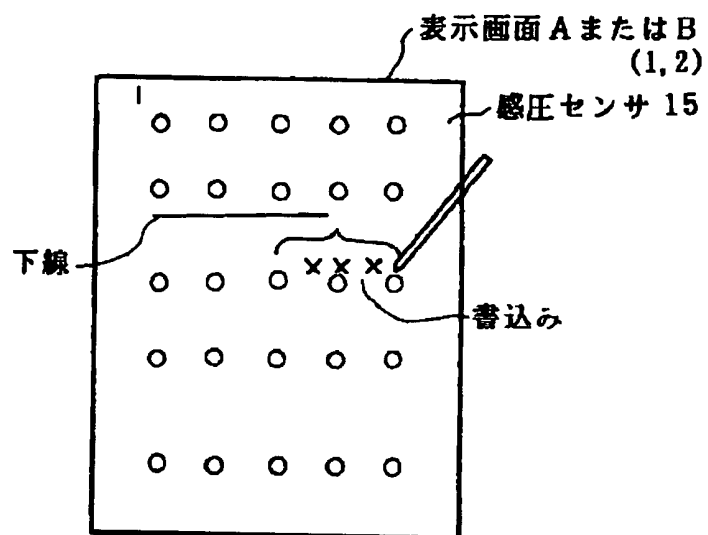
[Drawing 12]



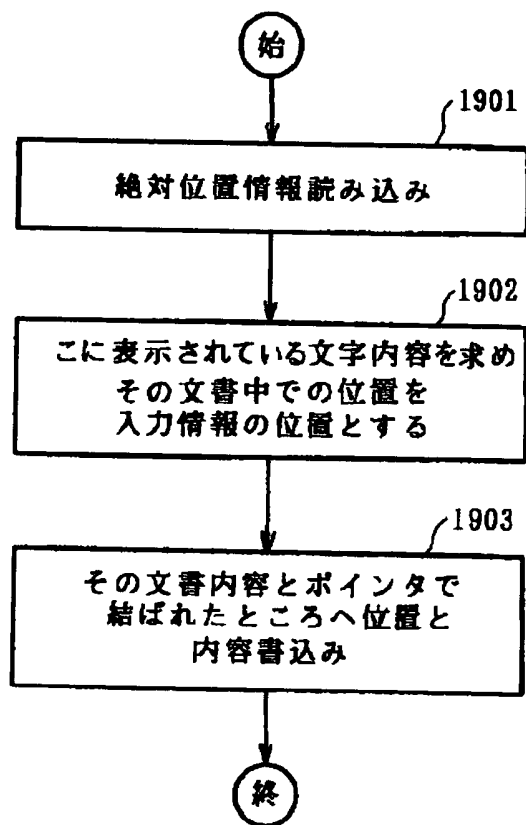
[Drawing 15]



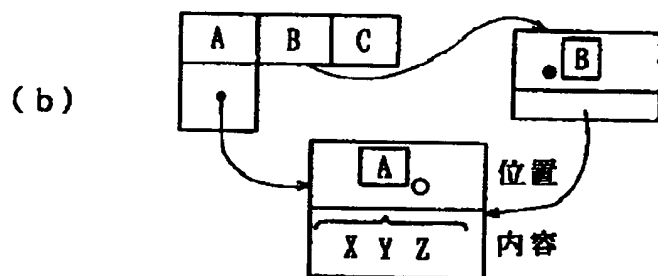
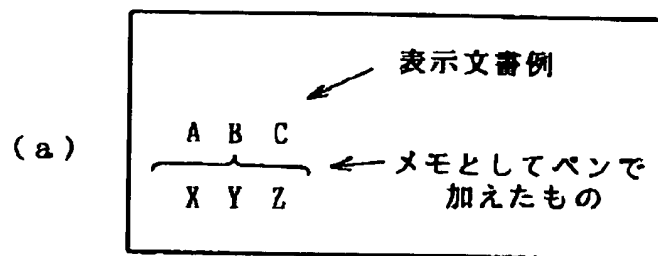
[Drawing 16]



[Drawing 17]



[Drawing 18]



[Translation done.]

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CORRECTION or AMENDMENT

[Official Gazette Type] Printing of amendment by the convention of 2 of Article 17 of patent law.

[Section partition] The 3rd partition of the 6th section.

[Date of issue] January 12, Heisei 13 (2001. 1.12)

[Publication No.] JP,6-83779,A.

[Date of Publication] March 25, Heisei 6 (1994. 3.25)

[**** format] Open patent official report 6-838.

[Filing Number] Japanese Patent Application No. 4-230732.

[The 7th edition of International Patent Classification]

G06F	15/02	315	.
301			
G09F	9/00	366	.

[FI]

G06F	15/02	315 C	.
301 E			
G09F	9/00	366 E	.

[Procedure revision]

[Filing Date] August 30, Heisei 11 (1999. 8.30)

[Procedure amendment 1]

[Document to be Amended] Specification.

[Item(s) to be Amended] Claim.

[Method of Amendment] Change.

[Proposed Amendment]

[Claim(s)]

[Claim 1] An information-storage means to memorize information,

At least two display meanses to display the aforementioned information,

Display characterized by having a display-mode change means to perform a change in the interlocking mode which displays the aforementioned information succeeding the aforementioned display means, and the independent mode which displays the aforementioned information on each of this display means independently.

[Claim 2] Display according to claim 1 characterized by containing in the aforementioned interlocking mode the 1st change mode in which the change of the aforementioned information is simultaneously performed about all the aforementioned display meanses, and the 2nd change mode in which the change of this information is performed for every display means of this.

[Claim 3] Display according to claim 1 characterized by displaying one information using at least two of the aforementioned display meanses.

[Claim 4] Display according to claim 1 characterized by having further a means to shift the display position of this information, according to the aforementioned information displayed on the boundary section of the aforementioned display means.

[Procedure amendment 2]

[Document to be Amended] Specification.

[Item(s) to be Amended] 0005.

[Method of Amendment] Change.

[Proposed Amendment]

[0005]

[Means for Solving the Problem] In order to solve said technical problem, the display characterized by to have a display-mode change means perform a change in the interlocking mode which displays the aforementioned information in this invention succeeding an information-storage means memorize information, at least two display meanses display the aforementioned information, and the aforementioned display means, and the independent mode which display the aforementioned information independently on each of this display means provides.

[Procedure amendment 3]

[Document to be Amended] Specification.

[Item(s) to be Amended] 0009.

[Method of Amendment] Change.

[Proposed Amendment]

[0009] In addition, in this example, the button for choosing a menu or moving the contents of a screen is attached. Moreover, the pen 10 for a handwriting input or menu selection is also attached. The external connection connector 11 for connection with other devices is formed in the central lower part so that a connection code may not become obstructive [operation]. This equipment is foldable like drawing 2 (a), and it can be carried easily, protecting a display and a control unit.

[Translation done.]